ARE THERE MORE INHABITED WORLDS THAN OUR GLOBE?
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Of the origin and first formation of the sun and planets of our system there has been various hypotheses. That which comes nearest to natural appearances supposes, that the sun was formed out of the chaotic elements, in a state of intense fusion, that, having received a rotary motion from the Great First Mover, it shot forth masses of burning matter far into the regions of space; each of these masses formed by the law of gravitation an orb or planet, the molten matter of which ejected portions of itself that formed its satellites. The farthest from the centre being composed of the lightest materials, as a volcano ex plodes its smoke and ashes at an immense height, while the more weighty are sent a shorter distance from the crater. This theory is strongly corroborated by the density of the planets, each of which is dense or ponderous, not in proportion to its magnitude, but to its nearness to the centre. Thus compared with the weight of water as unit, Mercury is nine times and a quarter heavier, and Saturn lighter, than water.

It has been proved to demonstration, that the earth must have existed, thousands of years, a sterile rock of granite, before its surface produced vegetables and animals by the creative power of God; and that these successively perished, and others of different genera succeeded, and thus proceeded for many centuries before the creation of man. Every day some new discoveries are made in the different strata of the earth, establishing the truth of these facts. Among the relics of innumerable animals which no longer exist, no human skeleton has ever been found.

Our solar system consists of the sun, in the centre, (880,000 miles in diameter,) seven primary planets, and eighteen secondary or satellites, all moving round him. There have been also discovered between the orbits of Mars and Jupiter, four others, but so small as to be seen only through the telescope. Besides these, there are belonging to the system, more than four hundred comets, which have been noted in the annals of astronomy. They move round the sun with incredible swiftness, in orbits very eccentric, having the sun in one of the foci. Their bodies or nucleus appear to be not so solid as those of the planets; in some it seems quite vapoury, and they have tails of many millions of miles in length, not dissimilar to the Aurora Borealis, and through which the stars may be discerned. The periods and returns of those bodies have been attempted to be calculated, but it seems without success. Some are supposed to have fallen on the sun, others to have lost their way in the regions of illimitable space, and, perhaps, to be attracted by some larger body. Their uses have been variously assigned; the hypothesis that supposes them to form and diffuse the electric fluid through the planetary spaces has the greatest share of probability.

It now remains to be examined, how far all, or any of these orbs are fitted for the support of animal or vegetable subsistence.

It is natural to suppose, that the wonderful appearance of the celestial orbs, as seen through optic instruments, would give rise to new theories and opinions. The first speculation was that the moon, enjoying all the advantages of our earth, was as fitted for the habitation of animals and the growth of vegetables, as its primary. Galileo, strongly persuaded of the great probability of it, made the first map of the moon. It was adopted by most of the astronomers of his time, and they actually began to dispute about the right of giving names of districts and seas, which they fancied they could discover on the disk of that satellite. Milton, with whom Galileo appears to have been a favourite philosopher, alludes to his plausible supposition, though he did not believe it was founded in fact. "The most probable," says an excellent French proverb, "is not always the most true."

There has been a great diversity of opinions on the subject. Many eminent astronomers and philosophers maintain, that not only the moon, but the sun and planets are inhabited. Sir Isaac Newton, indeed, is wholly silent on the subject, but Dr. Herschel affirms with confidence that the body of that luminary is cool enough for inhabitants to dwell there; that its luminous atmosphere is about 2,500 miles from the surface of his orb, which is occasionally seen through the breaches called spots, which fluctuate irregularly on its atmosphere. Huygens, an astronomer and mathematician of the first distinction, has published a work called "Cosmotheories," in which he peoples the moon and planets with inhabitants precisely similar in body and mind to those of the earth. But a little treatise published in France more than a century ago, "Fontenelle's Pluralite des Mondes," which has been translated into all the European languages, and even into Greek, was once so fashionable as to be found in all the boudoirs of Paris: being founded, however, on the Cartesian theory, and otherwise erroneous, it is now become obsolete. Others, as Whiston and King, attempting to combine philosophy with religion, teach us, that the sun is the abode of the blessed, gathered from all the planets of the system—in short, the New Jerusalem, sparkling with gems and gold; at the same time they suppose that comets are so many places of punishment for the wicked.

With our satellite the moon, we ought to be better acquainted, as she revolves round the earth on her own axis at the same time, and also round the sun in the same period as the earth, which she always accompanies; indeed she makes great efforts to be united, and is sometimes one-fifth nearer her primary, than at others, her mean distance being 240,000 miles from its centre.

The view of the earth from the moon must be awfully beautiful, being more than thirteen times larger. Our planet exhibits in succession, as she "spins on her soft axle," the continents, oceans, seas, islands, mountains, and rivers of the eastern and western hemispheres, whilst the polar regions, with their icebergs and snows, and the snowy summits of the Alps and Andes, sparkle like emeralds and pearls in reflecting the solar rays.

The lunarians, if such there be, of one lunar hemisphere, enjoy a day and night, each a fortnight long, but never see the earth, whilst the natives of the other half bask in the earth shine, with similar but opposite phases to those of the moon, but they never see the sun.

The refraction of the rays of light from a rarer to a denser medium, is aptly illustrated by placing a silver coin in the bottom of a basin. It will not be seen at a little distance, but by pouring on water it becomes enlarged, and visible over the edge. Thus it is in our atmosphere. The sun and moon descending from the zenith, into thicker air, gradually assume a larger disk as they approach the horizon, when the lower segments appear swelled out in breadth, and when their orbs have actually set, their images will be represented for some minutes in the horizon. Our atmosphere is also the conductor of heat as well as light, yet although it extends about fifty miles in height, at only six miles above the surface it would not sustain life, even in the torrid zone. The same effect takes place in ascending in a balloon, whilst the ocean of moving clouds and vapour hides from the aeronaut the surface of the globe. Now to apply these facts to the moon and planets. When seen from the earth in clear weather, they always appear serene and cloudless. Nothing is so deceptive as optical illusions: we believe we see what we wish to see, and there are mirages among the stars, as well as on the earth. The solar rays are reflected from the cold face of the moon, but produce no warmth. On the obscuration of a planet or star by her broad disk, it causes no changes in the stars, nor leaves a spectrum for a moment behind; the star immerges in an instant behind the moon; such also is the case with the satellites of Jupiter, which are objects of constant observation. Further, if there were seas in the moon, the attraction of the earth, being twelve times greater than hers, would inevitably deluge that portion of her globe nearest the earth, especially when in conjunction with the sun, it would cause spring tides. Now the moon being similar in substance to the earth, and moving in the same orbit, it is proved she is without air or water, and cannot, therefore, support animals or vegetables; still less could the other planets of the system, which, labouring under the same privations, occupy such sites that no animal could exist in them, even if they could breathe.

Mercury, the smallest and weightiest planet of the system, must be vitrified or calcined from his vicinity to the solar fire, if his matter were less compact. To suppose inhabitants could exist there, one must imagine them to be so many basaltic Memnons animated. Venus is farther removed, and is besides as large, or even larger than the earth. Great expectations were raised that a satellite and atmosphere would be demonstrated on her famous transit over the sun's disk in 1769, but neither appeared.

Those astronomers who support the hypothesis of planetary inhabitants, refer to Venus and Mars, as the nearest to and most resembling the earth; "they pretend to see now on the polar regions of Mars, and very therefore, that the intertropical parts are warm enough for the support of life, and that the polar regions of Venus are cool enough: this weak reasoning confutes itself."

Of the nature of three immense superior planets, Jupiter, Saturn, and Herschel, with the magnificent accompaniment of satellites, belts, and rings, we know almost nothing; their distance from the sun, is so great, that he must appear but a bright star to them; his light is, however, strong enough to be reflected, but his heat would be scarcely perceptible even in Jupiter. They are formed of light matter; for the orb of Jupiter is but a little heavier, and those of the others are lighter than water.

They are, possibly, hollow oblate spheroids. The enormous orb of Jupiter, more than 80,000 miles in diameter, whirls round his axis in less than ten hours. What rapid mutations must his sky exhibit in his day and night of five hours each! The sun, stars, and planets, flying across the celestial arch,—rise and set in quick succession,—whilst his four moons appear, sometimes single, sometimes altogether,—eclipsing the sun and each other. His year is equal to twelve of ours, and his season is invariable. Supposing the rotation of Saturn (for it has not been ascertained) be equally rapid, it may account for the formation of his ring, in consequence of the prevalence of the centrifugal form of his equatorial parts, which detached the matter of which it is composed from the body of the planet. It must be evident that no animal could live in them.

And what then is this grand display—the work of an all-wise and omnipotent God intended for? That must remain among his secret purposes, until, in his wisdom and goodness, he may please to reveal them. The world is still young, and eternity a long day. These glorious orbs may be now in preparation for inhabitants; the earth revolved round the sun many ages without any.

In taking a final survey of the solar system, it is strikingly evident, that no situation could be so happily chosen, as that which is occupied by the orbit of the earth; midway between the orbits of Mars and Venus. Had it been somewhat nearer the first, the frost and snow of the poles would spread over the temperate zones and compel the inhabitants to occupy solely the torrid zone. On the other hand, if moved a little towards Venus, the heat would be so great, that the tropical regions must become an arid and burning desert, as they were supposed to be by the ancients.

Our little globe, therefore, appears to be highly favoured: and when we contemplate the glorious sun in all his splendour, and the serene, majestic moon, "walking in brightness," and the mingled radiance of the stars, and the varied charms of our own lovely planet, what heart so insensible as not to feel the profoundest gratitude to the Great Giver of all these gifts?—*Amulet.*

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